



# CORE FIXED INCOME

DATA AS OF MARCH 31, 2019

Presented to: Burlington Employees' Retirement System

Presented by: Ryan Labs Asset Management  
Michael Donelan, CFA, Managing Director, Portfolio Manager  
Daniel J. Lucey, CFA, Managing Director, Portfolio Manager  
Annette Serrao, CFA, Director, Credit Research  
Chris Adair, Senior Managing Director

Presented on: May 20, 2019 at Burlington, VT

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THE SUN LIFE INVESTMENT MANAGEMENT GROUP OF COMPANIES



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## **ABOUT RYAN LABS ASSET MANAGEMENT**

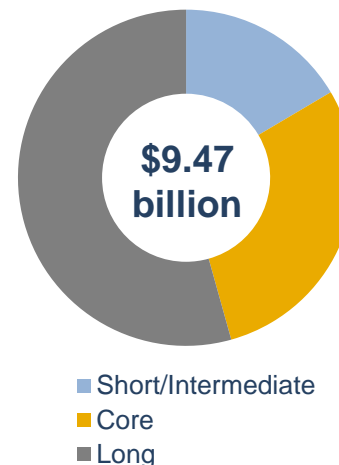
# FIRM OVERVIEW

## INTEGRATED ASSET MANAGEMENT

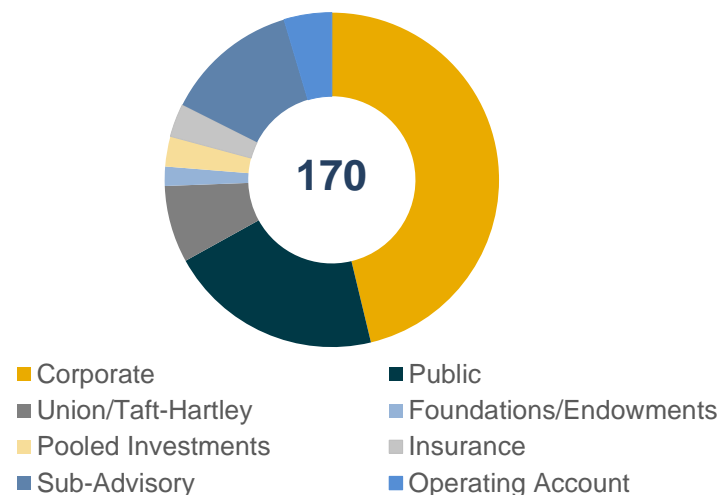
CONSISTENT RETURNS over market cycles with high information ratios

Core strategy has **OUTPERFORMED** Bloomberg Barclays US Aggregate Index over the last consecutive 17 years

## Assets Under Management (US\$)



## Client Accounts



\*Note: As of 3/31/2019. Source: Informa Investment Solutions ([www.informais.com](http://www.informais.com)). There are 107 Firms and 205 Products in the universe.

A full disclosure presentation is an integral part of this report, and is attached in the appendix. Returns shown are total returns gross of fees.

# SUN LIFE INVESTMENT MANAGEMENT

Part of the Sun Life Financial global organization

Providing a diverse range of insurance, wealth  
and asset management solutions



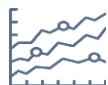
**\$697B**

Assets under management



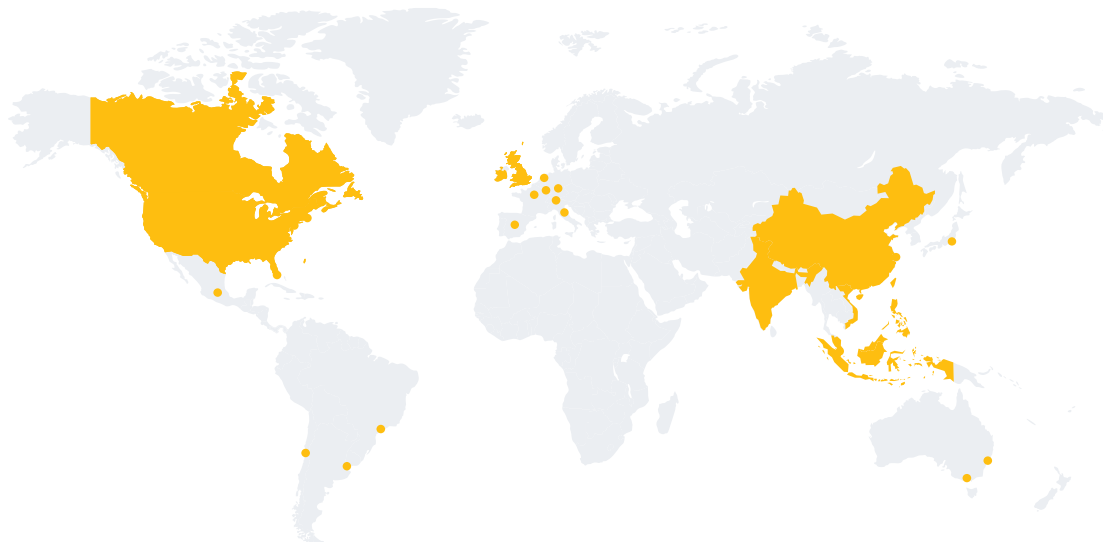
**26**

Countries with  
SLF offices



**\$20B**

Market capitalization



**Our strategy is  
focused on four key  
pillars of growth**

**1**

**Canada**

**2**

**U.S.**

**3**

**Asia**

**4**

**A leader in global asset management**



Data as of December 31, 2018.

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# BENEFITS OF A PARTNERSHIP



## STABILITY

Stability of a leading, global financial services organization with over \$759 billion in AUM; operating through a balanced and diversified model focused on asset management

## INFRASTRUCTURE

Leverage key operational infrastructure and investment capabilities across the Sun Life Investment Management companies

## ALIGNMENT OF INTERESTS

Benefit of seed capital for new market ventures; potential opportunities to co-invest alongside Sun Life



# WHY RYAN LABS?

## Our Firm

### **EXPERIENCED INSTITUTIONAL INVESTOR**

in domestic corporate credit, structured credit and high yield bonds.

### **INTEGRATED INVESTMENT TEAM**

combining research, portfolio management and trading that leads to more effective decision making and execution.

**INSTITUTIONAL MINDSET** that ensures a consistent investment process and comprehensive risk management throughout the credit cycle.

## Our Strategies

**STRONG RISK ADJUSTED RETURNS** in all market environments.

Issue selection and **VALUE GENERATION** in both up and down markets.

**DIFFERENTIATED INVESTMENT MANAGEMENT STYLE** to mega fixed income managers.





# RYAN LABS ASSET MANAGEMENT TEAM

## Executive Committee

**Richard Familetti, CFA**, President & Chief Investment Officer (2009 | 1986)

**Thomas Keresztes**, Chief Operations Officer & Chief Compliance Officer (2015 | 1987)

**Chris Adair**, Senior Managing Director - Head of Sales, Client Service & Strategy (2005 | 1992)

## Asset Management

**Richard Familetti, CFA**, President & Chief Investment Officer (2009 | 1986)

**Michael P. Donelan, CFA**, Managing Director, Portfolio Manager (2003 | 1988)

**Philip Mendonca**, Managing Director, Portfolio Manager (2003 | 2003)

**Matthew Salzillo**, Managing Director, Portfolio Manager (2004 | 2004)

**Daniel J. Lucey, CFA**, Managing Director, Portfolio Manager (2009 | 2003)

**Raghava Vudata**, Director, Associate Portfolio Manager (2008 | 2008)

**Annette Serrao, CFA**, Director (2010 | 2010)

**Shera Abella**, Director (2017 | 2008)

**Kenneth Szal**, Director (2009 | 2009)

**James Lizotte, CFA**, Associate Director (2014 | 2014)

**Marina Mestres**, Analyst (2016 | 2016)

**Alyssa Barchetta**, Analyst (2018 | 2018)

## Client Service & Strategy

**Chris Adair**, Senior Managing Director - Head of Sales, Client Service & Strategy (2015 | 1992)

**Bradley D. Jacob**, Managing Director (2008 | 2003)

**John Linder, CFA, CPA**, Managing Director (2018 | 1996)

**Melissa Spadafora**, Director (2016 | 2012)

**Pawel Krasowski**, Associate Director (2015 | 2015)

**Joshua Hassell**, Associate (2018 | 2018)

**Mark Stefaniak**, Analyst (2017 | 2017)

**Vincent Spoleti**, Analyst (2018 | 2018)

## Tail Hedging and Overlay Strategies

**Brett Pacific, CFA**, Senior Managing Director, Portfolio Manager (2004 | 1993)

**Peng Zhou, PhD., FSA, CFA**, Managing Director, Portfolio Manager (2003 | 2003)

**John Bichajian, CFA**, Senior Director, Portfolio Manager (2009 | 2003)

**Rawan El-Khatib**, Director (2008 | 2008)

**Kyle Chang, CFA**, Director (2014 | 2012)

## Leveraged Finance Group

**Mark Pelletier, CFA**, Senior Managing Director, Portfolio Manager (2018 | 1988)

**Michael Cerullo**, Managing Director, Portfolio Manager (2018 | 1988)

**Christian Toro, CFA, CPA**, Managing Director, Portfolio Manager (2018 | 1997)

**Dana Dratch, CFA**, Managing Director, Portfolio Manager (2018 | 1995)

**Juan Estela**, Managing Director, Portfolio Manager (2018 | 1999)

**Shelly-Ann Glover**, Director (2018 | 2000)

## Operations, Research, & Indexes

**Thomas Keresztes**, Chief Operations Officer & Chief Compliance Officer (2015 | 1987)

**Terry Lombardo**, Director (2000 | 2000)

**Theresa Arata**, Director (2012 | 1985)

**Alex Zambelli**, Director (2015 | 2015)

**Dhruv Trivedi**, Director (2017 | 2004)

**Thomas Watson**, Director (2017 | 2012)

**Jean Mimy**, Analyst (1999 | 1988)

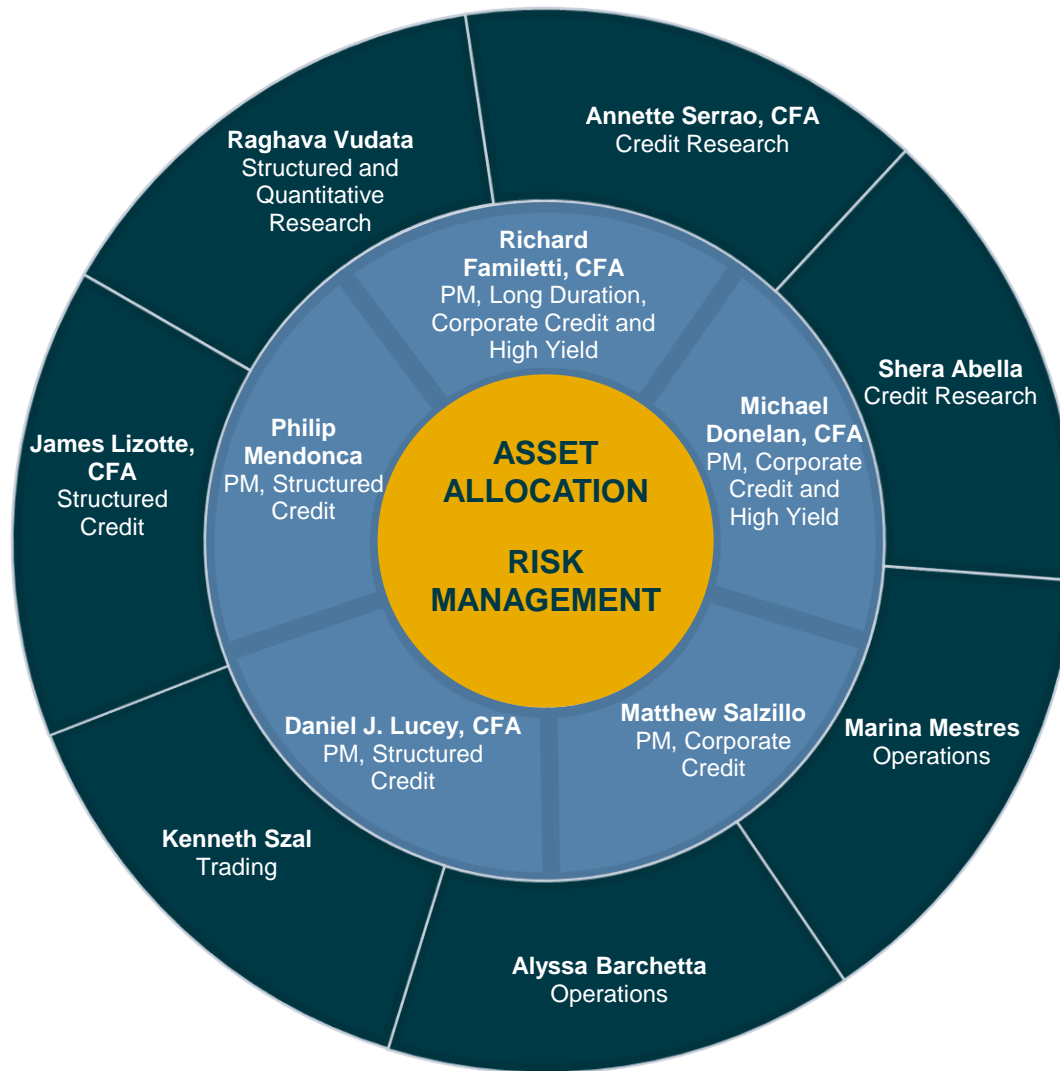
**Tanzila Mahmood**, Analyst (2019 | 2019)

(Ryan Labs Start | Industry Start)



A full disclosure presentation is an integral part of this report, and is attached in the appendix. Returns shown are total returns gross of fees.

# INTEGRATED INVESTMENT MANAGEMENT TEAM



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# OUR INVESTMENT PHILOSOPHY

We are **OPPORTUNISTIC**: We believe in actively managing portfolios to seek relative value. We look for risk that is fundamentally or technically mispriced in order to find investment opportunities. Avoiding the downside is critical to outperformance, and we are willing to underweight any sector

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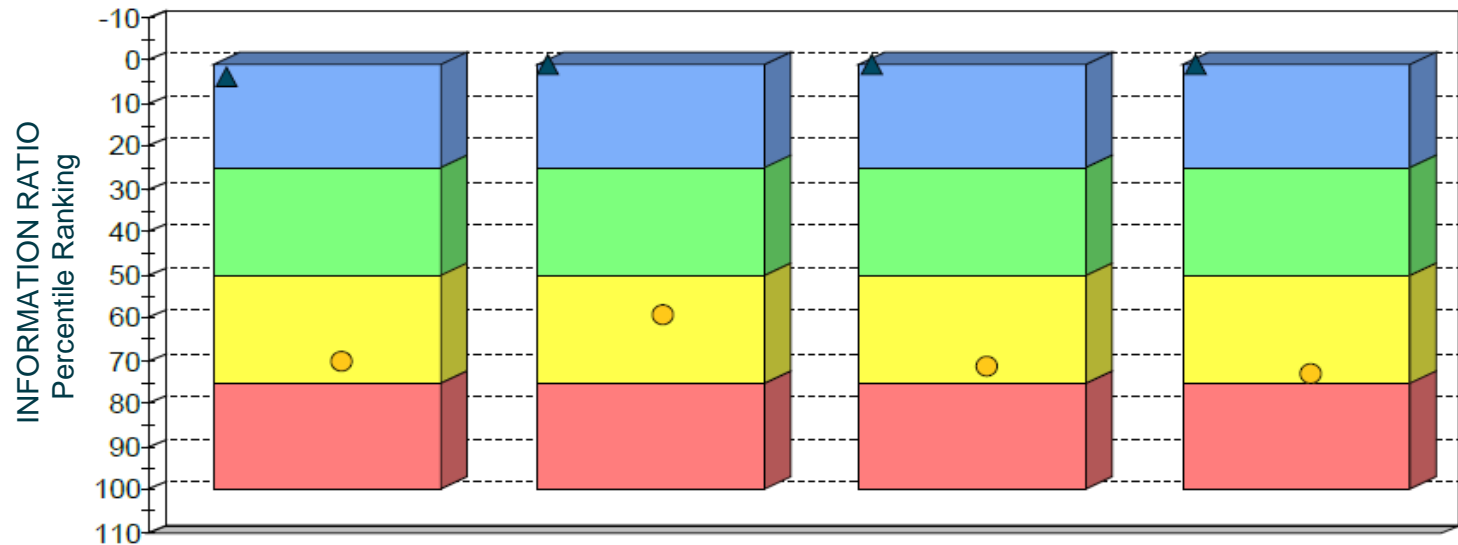
We use a **REPEATABLE PROCESS**: We believe that bottom up security selection using a repeatable process creates value. We take a neutral stance on interest rates.

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Our **TEAM is INTEGRATED**: We believe portfolios are best managed by nimble teams who integrate fundamental and technical credit analysis with portfolio management execution.



# CONSISTENT EXCESS RETURNS OVER MEDIUM AND LONG TERM



PERCENTILE RANKING – INFORMATION RATIO

	3/2016-3/2019		3/2014-3/2019		3/2009-3/2019		6/1996-3/2019	
	VALUE	RANK	VALUE	RANK	VALUE	RANK	VALUE	RANK
▲ Ryan Labs Core Fixed Income	1.77	4	1.52	1	1.32	1	0.82	1
● Bloomberg Barclays Aggregate	0.00	70	0.00	59	0.00	71	0.00	73

PERCENTILE RANKING – RATE OF RETURN

	3/2016-3/2019		3/2014-3/2019		3/2009-3/2019		6/1996-3/2019	
	VALUE	RANK	VALUE	RANK	VALUE	RANK	VALUE	RANK
▲ Ryan Labs Core Fixed Income	2.92	17	3.50	10	4.81	30	5.91	8
● Bloomberg Barclays Aggregate	2.03	70	2.74	59	3.77	71	5.15	73

Data as of 3/31/2019. Source: Informa Investment Solutions ([www.informais.com](http://www.informais.com)) Note: Performance presented above is gross of fees. There are 193 Firms and 391 Products in this universe.

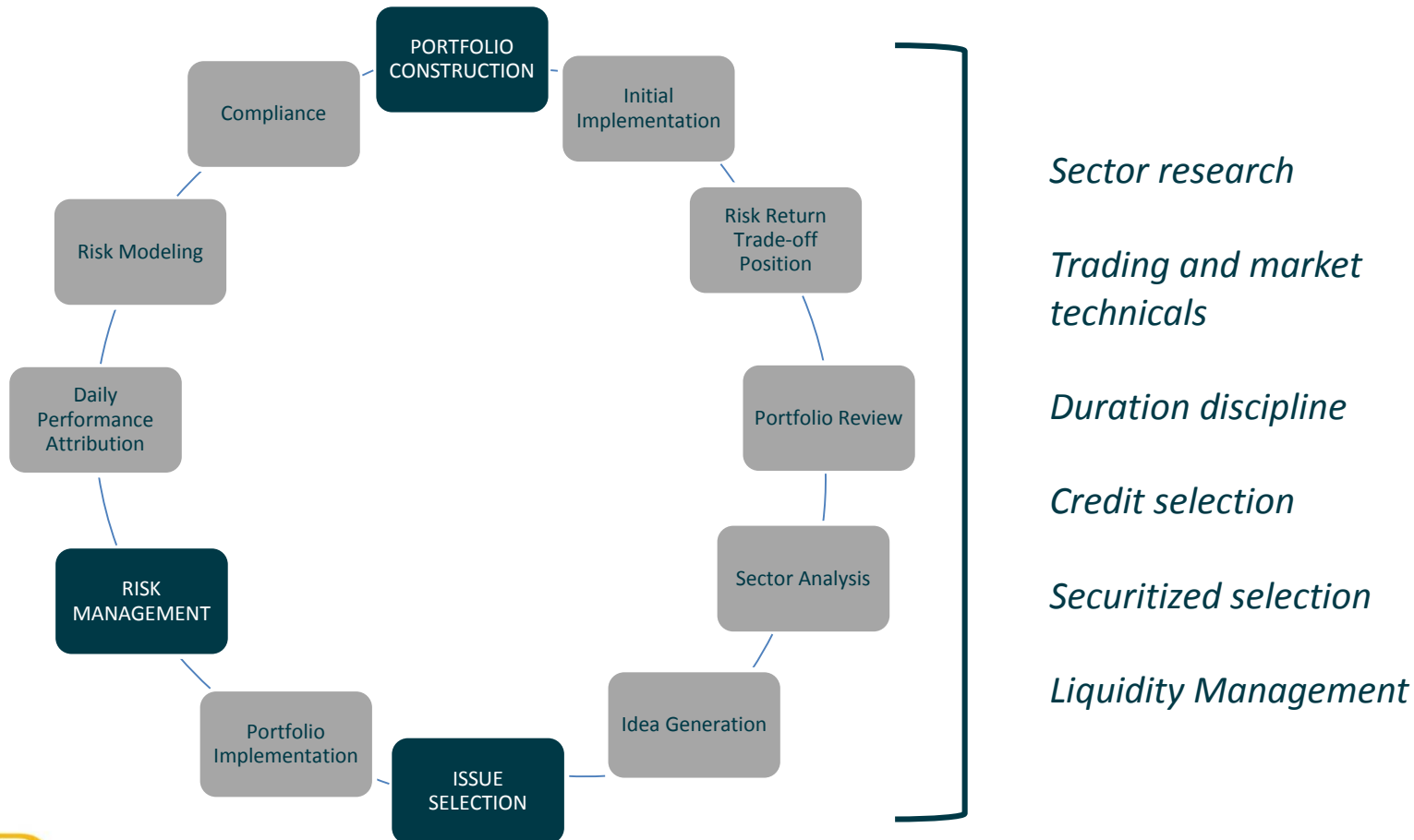


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## **CORE FIXED INCOME INVESTMENT PROCESS**

# INVESTMENT PROCESS

*Our nimble team applies the same rigorous investment process to each portfolio, regardless of mandate and duration.*



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# INVESTMENT PROCESS



1	Create the initial portfolio	<ul style="list-style-type: none"><li>• Neutralize interest rate risk and term structure exposures versus its benchmark</li><li>• Take a top down fundamental and economic view to determine sectors for active market positions</li></ul>
2	Position portfolio to best take advantage of risk/return trade-offs in the market	<ul style="list-style-type: none"><li>• Focus on short duration carry -- building positions in short-term assets with higher yield and attractive roll down characteristics</li><li>• Focus on long duration opportunistic positioning – identify underweight and overweight based on valuation.</li></ul>
3	Regularly review the portfolio	<ul style="list-style-type: none"><li>• Portfolio managers constantly monitor fundamental credit risk within names and subsectors in the portfolio as well as manage overall portfolio risk versus the benchmark</li><li>• Integrate analysis and portfolio management decisions for better sell discipline</li></ul>

# INVESTMENT PROCESS



- 
- |          |  |   |
|----------|--|---|
| <b>1</b> | <p>Idea generation; seek potential for better credit and fundamental opportunities</p> | <p>Corporate credit</p> <ul style="list-style-type: none"><li>• View fundamental considerations such as business outlook with leverage, operations, income statements, balance sheet</li><li>• View technical considerations such as spread ranges, issuances, flow, equity price movement</li></ul> <p>Securitized credit</p> <ul style="list-style-type: none"><li>• Focus on under-appreciated securities using a rigorous bottom-up approach that focuses on both fundamental credit and structural characteristics</li></ul> |
| <hr/>    |  |   |
| <b>2</b> | <p>Portfolio implementation</p>  | <ul style="list-style-type: none"><li>• Determine how position would best fit into the portfolio</li><li>• Look for a margin of safety and value before investing</li><li>• Research how long conditions may persist before security prices will change both at the sector and the individual security level</li><li>• Consider position on a number of fundamental and technical elements such as versus historical spreads (looking for mean reversion), current valuation and impact on portfolio liquidity</li></ul>          |
-



# SECTOR AND ISSUE SELECTION

## Top-Down Macroeconomic Outlook



### Domestic/Global

ISM, Sales, Inventory, Capacity,  
Geopolitical, Legislation/Political



### Consumer

Employment, Confidence,  
Income, HPA, Debt Load



### Credit

Availability, Volume, Leverage,  
Terms, Profitability

## Bottom-Up Credit Analysis



### Credit Research

Management  
Competence, Intention



### Fundamentals

Profits, Liquidity, Industry  
Dynamics, Coverage, Leverage



### Technicals

Supply, Demand, Market  
Factors, Equity, Spreads

## Bottom-Up Securitized Collateral



### Borrower

Loss Prepayment Curves (Vintage,  
Credit), Delinquency Roll, Loan  
Tiering, LTV, Debt Service  
Coverage Ratio



### Issuer Portfolio Trends

Yields, Excess Spreads, Payments  
and Delinquencies), Sponsor  
Profitability, Recovery Trends



### Structure

Credit Support (Subordination,  
Over Collateralization, Spread  
Capture), Leverage & Triggers



# INVESTMENT PROCESS



- 1 Analyze performance of portfolio versus benchmark daily
- 2 Monitor daily attribution to ensure consistency with expected sources of portfolio risk
- 3 Run daily risk models
- 4 Monitor pre- and post-trade compliance

# CURRENT PORTFOLIO POSITIONING BY RATING

Cell	Representative Account					Bloomberg Barclays Aggregate					Difference				
	Weight (%)	Coupon (%)	YTW (%)	MDur (%)	Conv (Yrs <sup>2</sup> )	Weight (%)	Coupon (%)	YTW (%)	MDur (%)	Conv (Yrs <sup>2</sup> )	Weight (%)	Coupon (%)	YTW (%)	MDur (%)	Conv (Yrs <sup>2</sup> )
Cash	3.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.13	0.00	0.00	0.00	0.00
AAA	41.75	3.21	2.97	8.31	1.31	72.62	2.90	2.67	5.51	0.68	-30.87	0.31	0.30	2.80	0.63
AA	2.16	3.24	3.46	4.65	0.25	3.53	3.39	2.97	5.97	0.84	-1.37	-0.15	0.49	-1.32	-0.59
A	12.05	3.79	3.60	5.56	0.60	10.34	3.78	3.33	7.18	1.03	1.71	0.02	0.28	-1.62	-0.43
BBB	37.81	4.22	4.14	5.66	0.63	13.51	4.47	4.01	7.39	1.06	24.29	-0.25	0.13	-1.73	-0.43
BB	1.35	5.51	9.11	2.96	0.10	0.00	0.00	0.00	0.00	0.00	1.35	5.51	9.11	2.96	0.10
B	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CCC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
C	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
D	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Not Rated	1.76	4.87	4.75	3.07	0.24	0.00	0.00	0.00	0.00	0.00	1.76	4.87	4.75	3.07	0.24
TOTAL	100.00	3.62	3.52	6.48	0.87	100.00	3.21	2.93	5.96	0.78	0.00	0.41	0.59	0.52	0.09

Notes: Based on a Core Fixed Income Representative Account

YTW = Yield to Worst

MDur = Modified Duration

Conv = Convexity



# CURRENT PORTFOLIO POSITIONING BY INDUSTRY

Cell	Representative Account					Bloomberg Barclays Aggregate					Difference				
	Weight (%)	Coupon (%)	YTW (%)	MDur (%)	Conv (Yrs <sup>2</sup> )	Weight (%)	Coupon (%)	YTW (%)	MDur (%)	Conv (Yrs <sup>2</sup> )	Weight (%)	Coupon (%)	YTW (%)	MDur (%)	Conv (Yrs <sup>2</sup> )
Cash	3.13	0.000	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	3.13	0.000	0.00	0.00	0.00
Treasury	18.16	2.76	2.56	11.31	2.18	39.23	2.40	2.38	6.09	0.85	-21.07	0.36	0.18	5.22	1.33
Agency	0.26	5.00	4.82	15.51	3.51	2.73	3.02	2.89	4.22	0.41	-2.47	1.98	1.93	11.29	3.10
Local Authority	0.00	0.00	0.00	0.00	0.00	0.91	4.92	3.44	8.51	1.38	-0.91	-4.92	-3.44	-8.51	-1.38
Sovereign	0.39	4.00	3.28	4.03	0.19	0.96	4.99	3.75	8.77	1.40	-0.57	-0.99	-0.46	-4.74	-1.21
Supranational	0.00	0.00	0.00	0.00	0.00	1.45	2.22	2.41	3.15	0.17	-1.45	-2.22	-2.41	-3.15	-0.17
Industrial	10.71	4.48	4.30	7.01	0.93	14.86	4.12	3.70	7.80	1.20	-4.16	0.36	0.60	-0.79	-0.27
Utility	4.03	4.23	4.14	8.68	1.37	1.71	4.17	3.69	9.84	1.71	2.31	0.06	0.45	-1.16	-0.34
Finance	9.11	3.87	3.80	5.88	0.65	7.92	3.83	3.45	5.61	0.64	1.19	0.04	0.34	0.27	0.01
MBS Pass Thru	20.48	3.58	3.26	5.89	0.63	27.73	3.62	3.08	4.92	0.50	-7.24	-0.04	0.18	0.97	0.13
Asset Backed	18.18	4.00	3.83	3.58	0.18	0.51	2.72	2.70	2.04	0.08	17.67	1.28	1.13	1.54	0.10
CMBS	12.73	4.11	4.59	6.15	0.66	1.94	3.42	3.01	5.17	0.36	10.79	0.69	1.58	0.98	0.30
Covered	0.00	0.00	0.00	0.00	0.00	0.03	2.02	2.62	1.66	0.04	-0.03	-2.02	-2.62	-1.66	-0.04
CMO	2.82	3.87	3.80	3.14	0.13	0.00	0.00	0.00	0.00	0.00	2.82	3.87	3.80	3.14	0.13
Other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	100.00	3.62	3.52	6.48	0.87	100.00	3.21	2.93	5.96	0.78	0.00	0.41	0.59	0.52	0.09

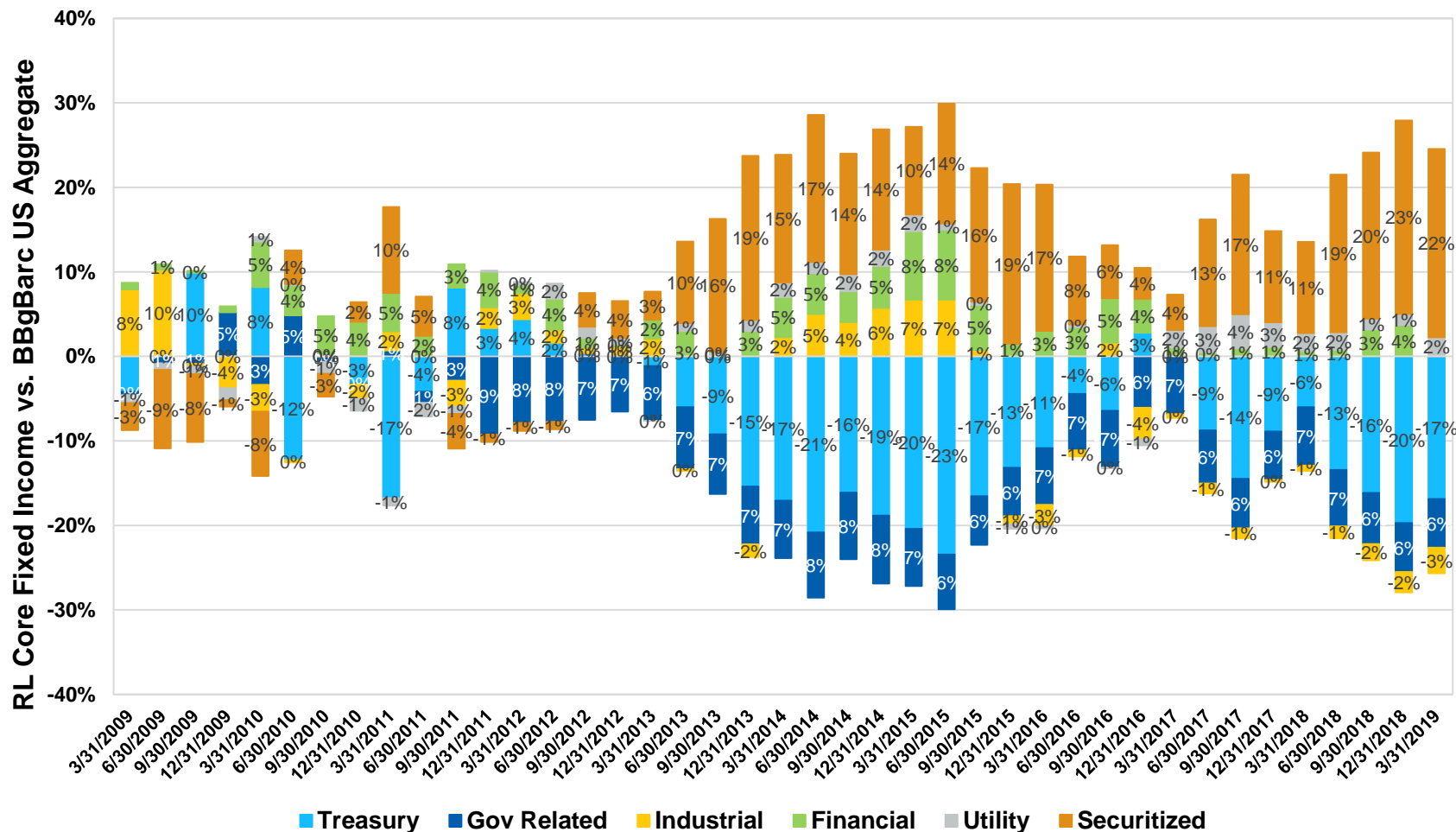
Notes: Based on a Core Fixed Income Representative Account  
 YTW = Yield to Worst  
 MDur = Modified Duration  
 Conv = Convexity



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# ACTIVE PORTFOLIO MANAGEMENT

## RL Core Fixed Income vs. BBgBarc U.S. Aggregate



Source: Benchmark data from Barclays Live. RL Core Fixed Income from representative account.

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# CORE FIXED INCOME ATTRIBUTION

## TWELVE YEARS ENDING 3/31/2019

Horizon: 3/31/2007 to 3/31/2019		Ryan Labs Core Fixed Income (Portfolio Gross Performance)	Bloomberg Barclays Aggregate (Benchmark Performance)	Difference
<b>RISK</b>				
1. Annualized Standard Deviation (Volatility)	%	3.31	3.20	0.11
2. Minimum Periodic Return	%	-2.33	-2.37	0.04
3. Maximum Periodic Return	%	3.88	3.73	0.15
4. Beta (Sensitivity to Benchmark)		96.63		
5. R-Squared	%	86.26		
6. Correlation	%	92.88		
7. Annualized Tracking Error	bp	117.92		
8. Shortfall Frequency	%	27.78		
9. Average Shortfall	bp	21.42		
10. Downside Capture Ratio	%	76.58	100.00	
<b>REWARD</b>				
11. Annualized Total Return	%	5.15	4.03	1.11
12. Average Periodic Return	bp	42.35	33.42	8.93
13. Cumulative Total Return	%	82.59	60.69	21.90
14. Excess Return Frequency	%	72.22		
15. Average Excess Return	bp	20.61		
16. Upside Capture Ratio	%	107.37	100.00	
<b>RISK ADJUSTED RETURN</b>				
17. Sharpe Ratio		1.30	1.00	0.31
18. Information Ratio		0.94		

All series and calculations are based upon monthly gross returns

Portfolio = Ryan Labs Core Fixed Income

Benchmark = Bloomberg Barclays Aggregate

Risk Free Rate = Merrill Lynch 91 day T-Bill



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## **WHY RYAN LABS AS AN ACTIVE vs PASSIVE MANAGER?**

# PROVEN INVESTMENT PROCESS: PROVIDING CONSISTENT EXCESS RETURNS VS PASSIVE MANAGERS

## Ryan Labs

Demonstrated skill in adding value in sector and security selection

Consistent value add across multiple market cycles

Integrated team approach contributes to more active portfolio management

Duration neutral posture vs market benchmark reduces tracking error



## Client benefit

Different alpha source versus active duration managers; sector/issue bets could be different versus other managers

Ryan Labs downside capture may help protect overall fixed income returns in poor markets

Many large fixed income managers might not be nimble enough to react to market developments

Focus on picking the right issues instead of forecasting macro-economic conditions





# ALPHA GENERATION AT SIMILAR MARKET BETA: CONSISTENT RISK ADJUSTED RETURNS OVER PASSIVE INDEXING

CORE FIXED INCOME ANNUAL STATISTICS												
Total Performance	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Q1 19'
RL Core Fixed Income Return	6.87	7.92	8.72	7.99	6.18	(0.92)	7.06	0.80	3.91	4.55	0.09	3.44
Bloomberg Barclays US Aggregate Return	5.24	5.93	6.54	7.84	4.21	(2.02)	5.97	0.55	2.65	3.54	0.01	2.94
Performance Difference	1.63	1.99	2.18	0.15	1.97	1.10	1.09	0.25	1.26	1.01	0.08	0.50
RL Core Fixed Income Annualized Volatility	5.90	3.72	2.56	2.78	2.44	3.22	2.29	3.48	3.62	1.56	2.81	2.81
Bloomberg Barclays US Aggregate Annualized Volatility	6.09	3.34	2.91	2.35	2.01	3.19	2.31	2.95	3.71	1.52	3.12	2.81
Annualized Volatility Difference	(0.19)	0.38	(0.35)	0.43	0.43	0.03	(0.02)	0.53	(0.09)	0.04	(0.31)	0.00
Annualized Information Ratio	0.68	0.83	2.80	0.13	2.54	1.07	4.95	0.41	1.32	3.42	0.15	N/A
Annualized Tracking Error (bps)	240	240	78	112	77	104	22	61	87	29	55	19
Correlation (%)	84.37	70.95	88.67	84.16	87.85	86.84	91.25	91.27	89.10	90.02	90.58	N/A
Beta	0.89	0.86	0.85	1.08	1.16	0.96	0.99	1.18	0.95	1.01	0.89	1.00

\*Information ratio is calculated on an annual basis.



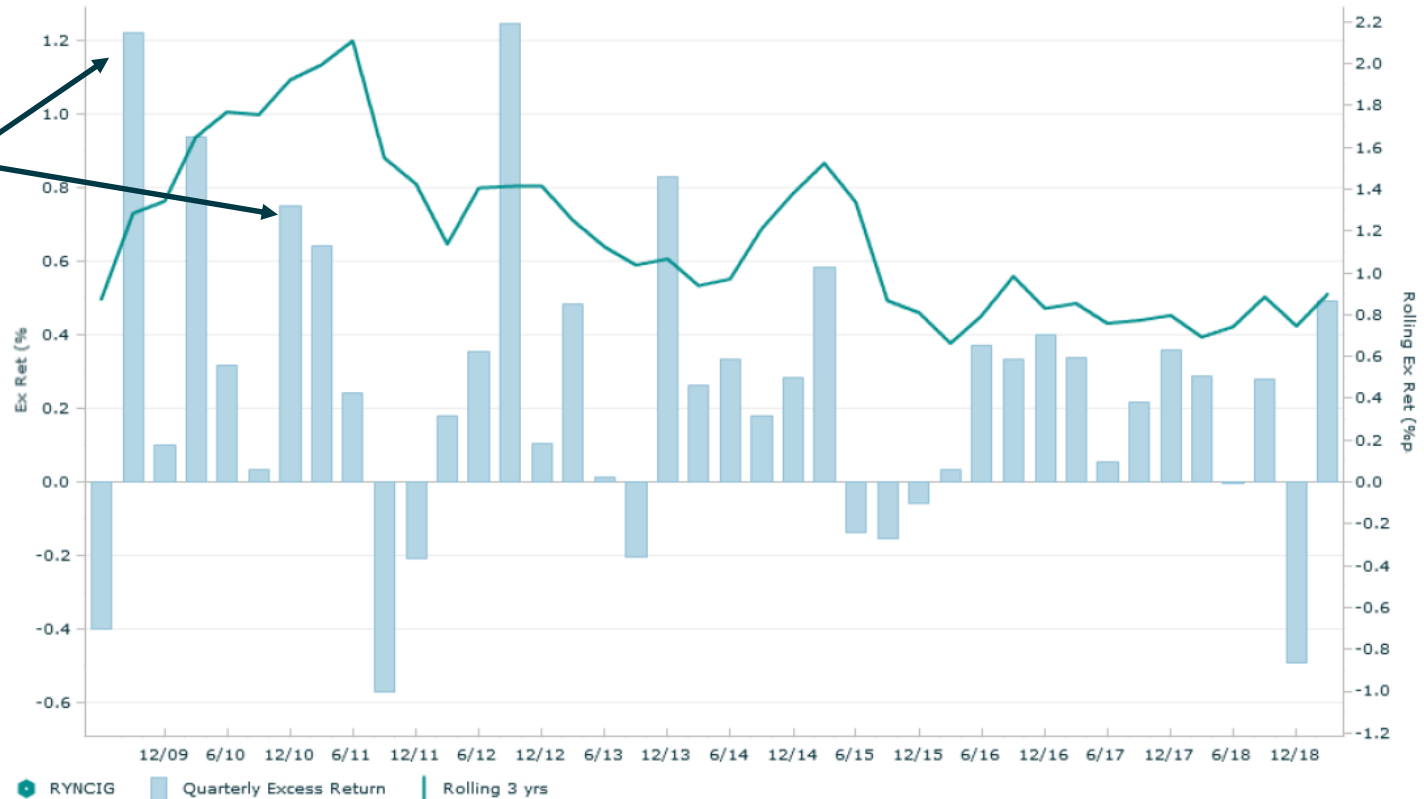
Source: Benchmark data from Barclays Live.

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# PROVIDING CONSISTENT EXCESS RETURNS OVER PASSIVE INDEXING WHEN INTEREST RATES RISE AND FALL

Quarterly Excess Return vs. Bloomberg Barclays US Aggregate with rolling 3 yr line in \$US (before fees) over 10 yrs ending March-19

Positive excess return in most up and down interest rate environments



- Roughly 86%\* of the Bloomberg Barclays US Aggregate returns can be attributed to changes in interest rates

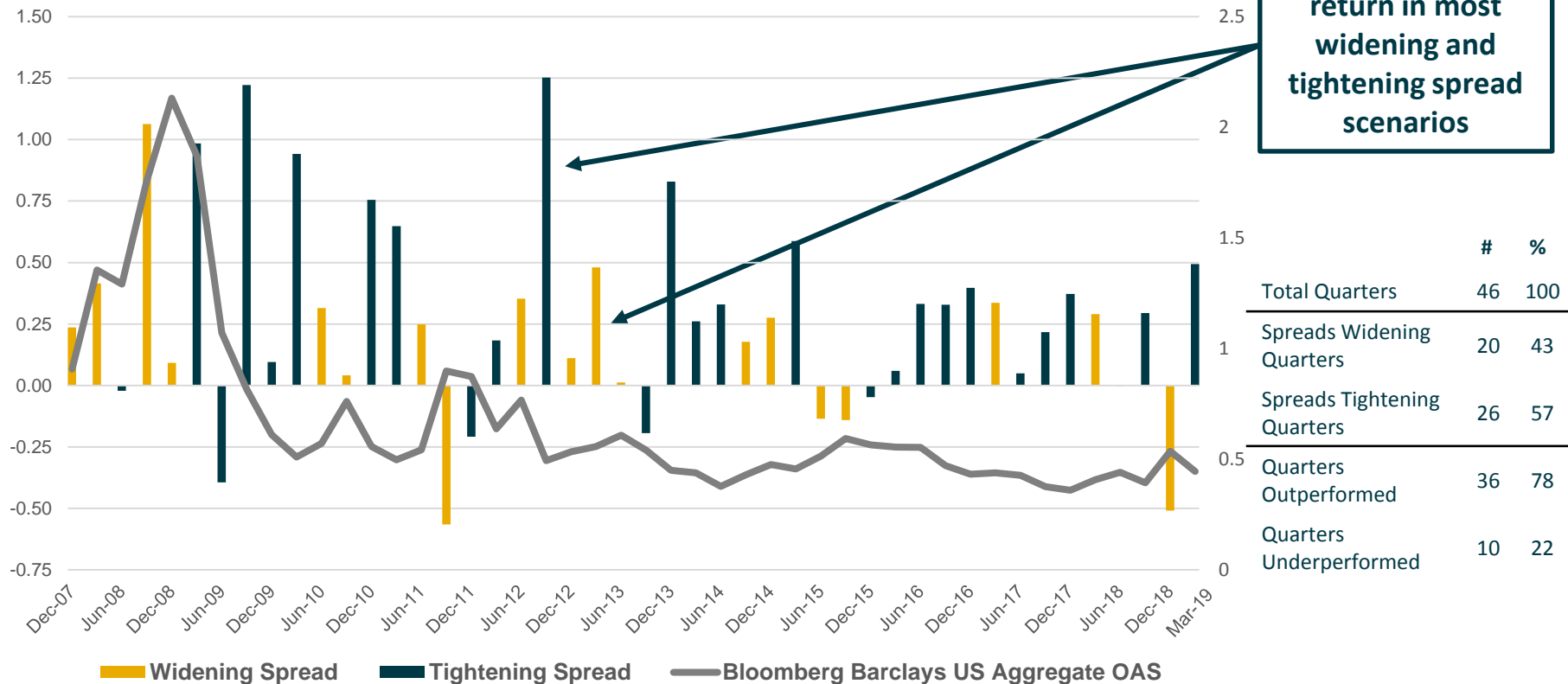
Source: Mercer. Data as of 3/31/2019. Output should be read in conjunction with, and is subject to, MercerInsight MPA™ : Important notices and Third-party data attributions.

Time period sample is last 10 years starting 2009, with rolling 3 year data including data from 2006.

\*Since 3/31/2009-3/31/2019, -0.86 correlation between monthly index returns and monthly change yield of a market-weighted OTR Treasury index

A full disclosure presentation is an integral part of this report, and is attached in the appendix. Returns shown are total returns gross of fees.

# PROVIDING CONSISTENT EXCESS RETURNS OVER PASSIVE INDEXING WHEN CREDIT RISK RISE AND FALL



- Ryan Labs' focus on issue selection outperforms in both spread widening and tightening environments.

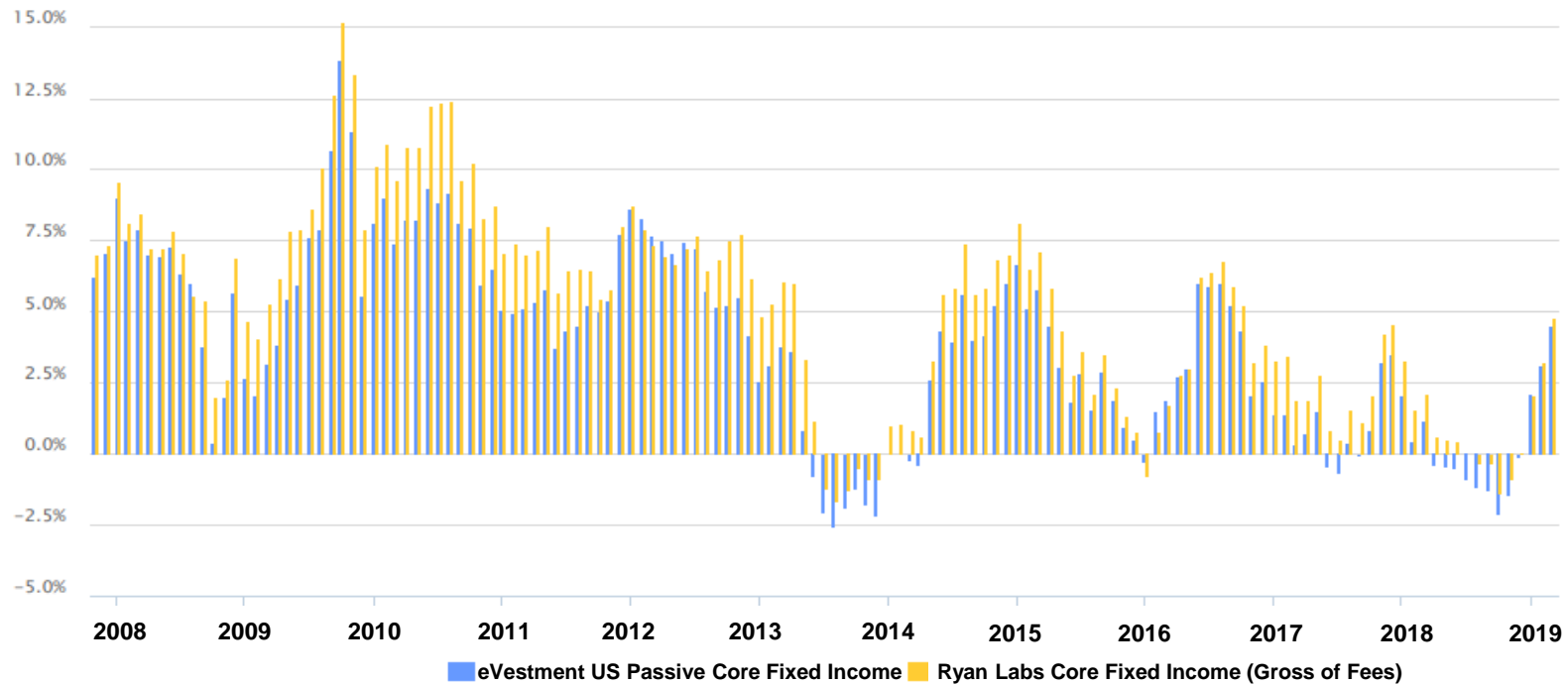


Source: Benchmark data from Barclays Live.

A full disclosure presentation is an integral part of this report, and is attached in the appendix. Returns shown are total returns gross of fees.

# COMPARATIVE ACTIVE vs PASSIVE ROLLING 12 MONTH PERFORMANCE FROM 12/31/2006 TO 3/31/2019

- Ryan Labs Core Fixed Income strategy has outperformed 138 out of 147 periods from 12/31/2006 to 3/31/2019 versus a passive index.

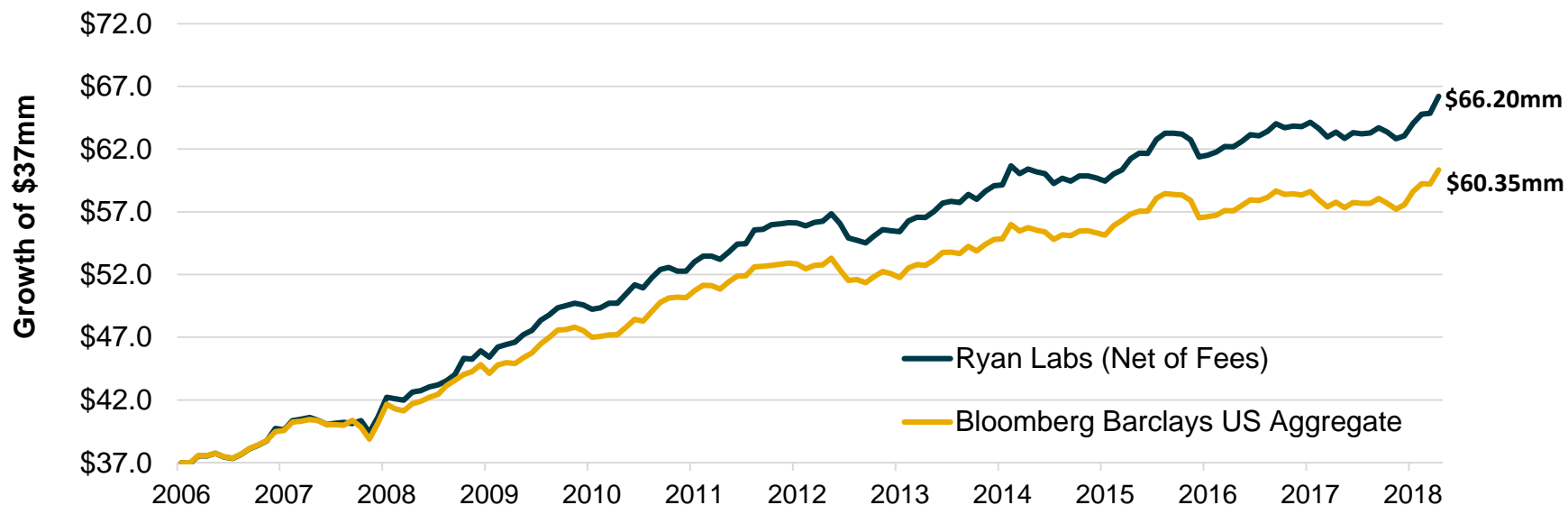


Source: eVestment



A full disclosure presentation is an integral part of this report, and is attached in the appendix. Returns shown are total returns gross of fees.

# COMPARATIVE ACTIVE vs PASSIVE GROWTH OF \$37MM FROM 12/31/2006 TO 3/31/2019



Time Period Ending 3/31/2019	Ryan Labs Core Fixed Income (Net of Fees) Return	Bloomberg Barclays US Aggregate Index Return
1 Year	4.50%	4.48%
3 Year	2.63%	2.03%
5 Year	3.20%	2.74%
10 Year	4.50%	3.77%
Since 12/31/2006	4.86%	4.07%

Source: Bloomberg



A full disclosure presentation is an integral part of this report, and is attached in the appendix. Returns shown are total returns gross of fees.

## **CORE FIXED INCOME SOLUTIONS IN ACTION**

# FINANCIAL CRISIS 2007 -2010

Between 2007 and 2009, we experienced a volatile, dislocated credit environment due to the financial crisis.

Chapter 11 filing of New Century leads the team to develop a narrative that sub prime is not contained, financial institutions are over-levered and once asset prices cease their ascent/begin to decline - the debt overhang will result in a significant markdown of asset prices through forced liquidation.

In late 2007, we underweighted the Financial sector, as we believed on a leverage adjusted basis this sector was overvalued

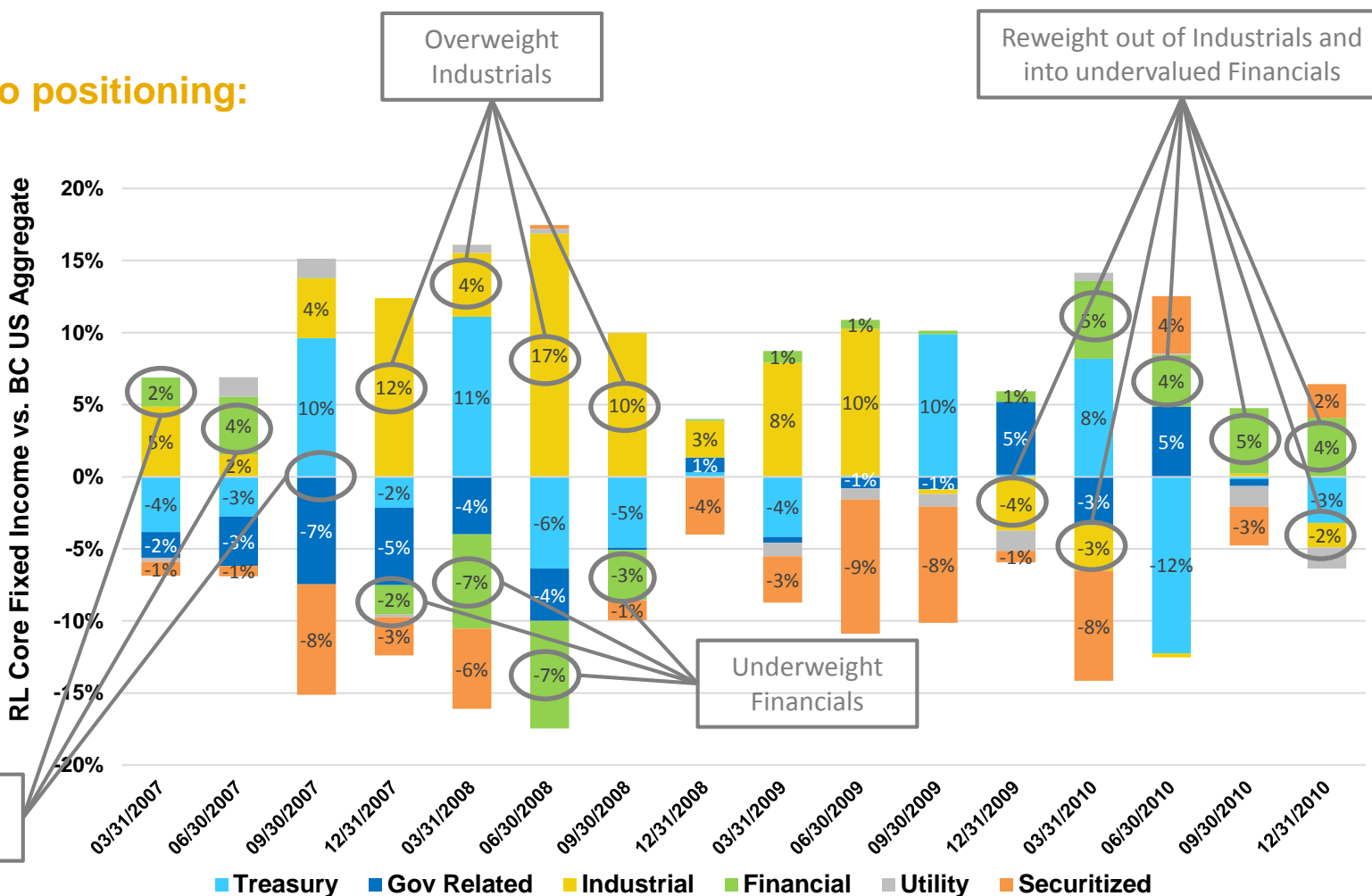
Evaluation of tight spreads in Financials caused us to sell holdings and rotate into the undervalued Industrial sector. This emphasizes the importance of sell discipline when valuations are not justified.

***Throughout 2009, our agile team saw good opportunities and moved quickly to invest.***



# FINANCIAL CRISIS 2007 -2010

## Portfolio positioning:



Source: Benchmark data from Barclays Live. RL Core Fixed Income from representative account.

A full disclosure presentation is an integral part of this report, and is attached in the appendix. Returns shown are total returns gross of fees.

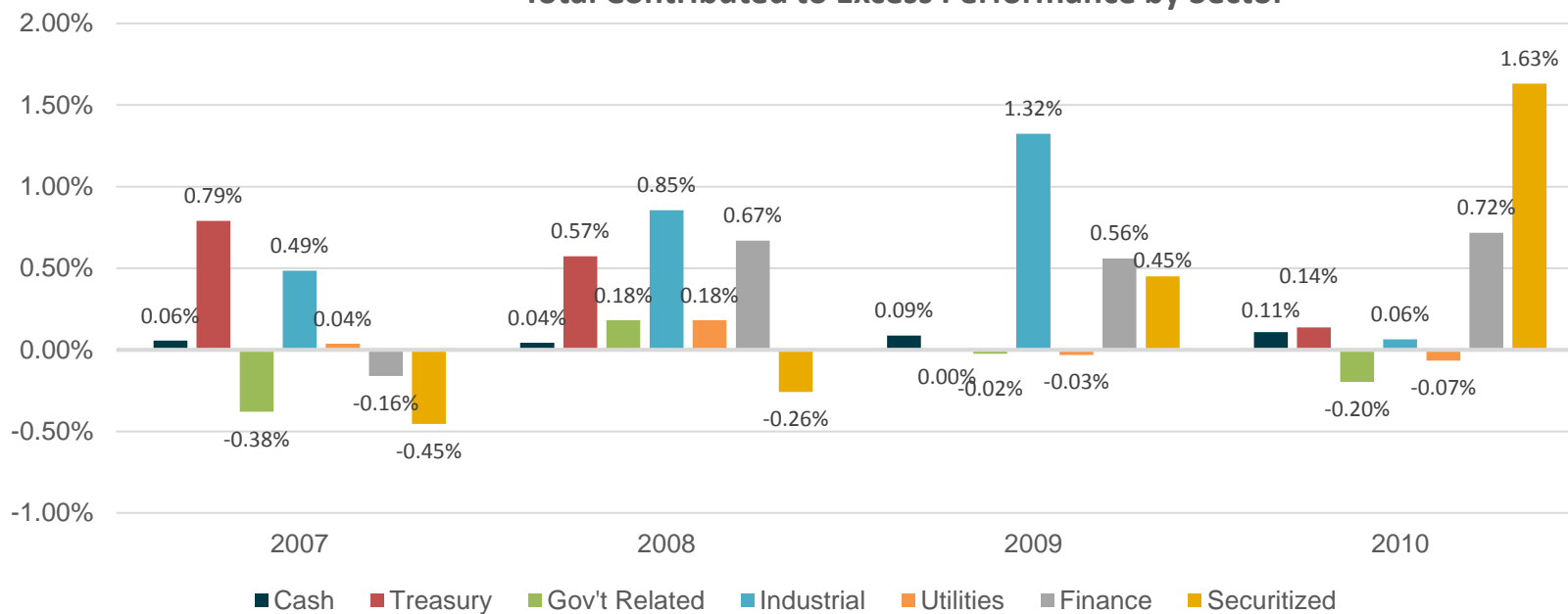


# FINANCIAL CRISIS 2007 -2010

## Results:

Total Performance	2007	2008	2009	2010
RL Core Fixed Income	7.34	7.48	8.30	8.94
Bloomberg Barclays US Aggregate	6.97	5.24	5.93	6.54
Performance Difference	0.37	2.24	2.37	2.40
<b>Total Excess Performance</b>	<b>0.37</b>	<b>2.24</b>	<b>2.37</b>	<b>2.40</b>
Sector Allocation	-0.02	-2.83	2.74	0.92
Issue Selection	0.35	5.19	-0.23	1.84
Trading + Other	0.04	-0.11	-0.15	-0.37

Total Contributed to Excess Performance by Sector



Source: Benchmark data from Barclays Live. RL Core Fixed Income from representative account.

A full disclosure presentation is an integral part of this report, and is attached in the appendix. Returns shown are total returns gross of fees.

## OUTPERFORMANCE IN A TOUGH MARKET: 2011

Our focus on issue selection and targeted, focused trade ideas (not on a macro level) enabled us to weather this crisis.

In 2011, despite being in a formal macroeconomic recovery, the market experienced significant credit stress.

Eurozone crisis contagion and questions around Euro currency solvency put substantial stress on Portuguese, Italian, Greek and Spanish debt, creating wide spreads within certain sectors.

We remained duration neutral which helped mitigate risk as the absolute return of the portfolio was substantial.

***As a result, we outperformed in a very tough credit year, providing 1<sup>st</sup> quartile returns.***



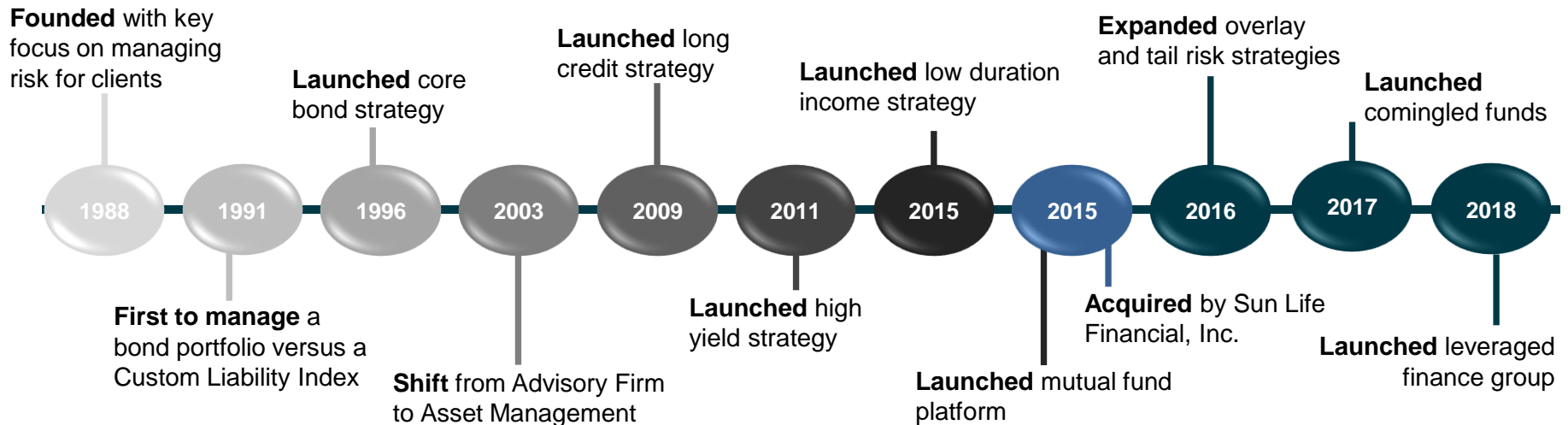
Source: In 2011, the RL Core Fixed Income strategy returned 7.99% on a gross basis versus the Barclays Aggregate's 7.84% return.

A full disclosure presentation is an integral part of this report, and is attached in the appendix. Returns shown are total returns gross of fees.

# APPENDIX

# ALPHA FOCUSED + RISK OPPORTUNISTIC

*Specializing in total return strategies and liability driven investment solutions for institutional investors.*



A full disclosure presentation is an integral part of this report, and is attached in the appendix. Returns shown are total returns gross of fees.

# CHRIS ADAIR

## SENIOR MANAGING DIRECTOR, SALES AND STRATEGY

Chris is the Senior Managing Director - Head of Sales, Client Service & Strategy. In this role, Chris provides customized comprehensive portfolio solutions, including traditional fixed income, overlay, and tail-hedging solutions. Chris works closely with clients and plan sponsors focusing on traditional fixed income allocations, opportunistic customized fixed income, de-risking glide paths, pension settlements and terminations. Additionally he works with clients on implementing overlay risk solutions at the portfolio level including tail-hedging solutions, passive and active duration, equity, and currency.

Chris has been advising and working with corporations, consultants, hedge funds, pension plans, endowments, and foundations on accessing and managing a variety of market beta risk for 23 years. Chris holds a B.S. in Finance from Babson College



# MICHAEL DONELAN, CFA

## MANAGING DIRECTOR, PORTFOLIO MANAGER

Michael Donelan is a Managing Director and Portfolio Manager for Ryan Labs. Mike joined the firm in 2003 as portfolio manager and Director of Trading. His experience includes fundamental and technical research as well as trading a wide spectrum of fixed income securities.

Prior to joining Ryan Labs, Mike held positions as principal investment officer for the New York State Insurance Fund, Director of Asset Management at Native Nations Asset Management, Senior Portfolio Manager with Butterfield Asset Management in Bermuda, portfolio manager and trader at ABN-AMRO Bank, and trader at Brown Brothers Harriman.

Mike holds a B.S. in finance from the Seton Hall University and an M.B.A from Fordham University. He is a CFA charterholder.



# DANIEL J. LUCEY, CFA

## MANAGING DIRECTOR, PORTFOLIO MANAGER

Daniel Lucey Jr. is a Managing Director and Portfolio Manager for Ryan Labs. D.J. joined the firm in 2009 as an institutional portfolio strategist. In that role, D.J. was responsible for liability driven investing and fixed income research, strategy and communicating Ryan Labs' investment philosophy, capital market climate and underlying positions to institutional clients. He also assisted Ryan Labs with asset/liability strategies and credit research.

In 2010, D.J. was promoted to Portfolio Manager, focusing on the structured product sector. He co-manages the short duration, core, and custom LDI portfolios as part of the Ryan Labs portfolio management team. His responsibilities include performing credit research and valuation, and managing and trading the ABS, CMBS, and MBS sectors. His prior experience includes actuarial analysis, pension fund asset and liability valuation, and pension industry research.

Prior to joining Ryan Labs, D.J. was a senior research analyst with Cerulli Associates, a strategy research and consulting firm specializing in the financial services industry. His primary research focus was on the institutional fund management industry. Past research and articles he has authored have covered institutional asset allocation and asset/liability management, liability-driven investment strategies and the use of alternatives in pensions.

D.J. holds a B.A. in economics from the College of the Holy Cross. He is a CFA charterholder.



# ANNETTE SERRAO, CFA

## DIRECTOR, CREDIT RESEARCH

Annette Serrao is a Credit Analyst at Ryan Labs. Her primary responsibilities include conducting detailed credit research, trading and supporting the portfolio management team.

Ms. Serrao joined the firm in July, 2010 as a marketing analyst. In 2014, she was promoted to a Portfolio Strategist position in which her responsibilities included conducting asset liability analysis and performance attribution analysis of fixed income portfolios, maintaining GIPS compliance and composite management.

Annette previously served as an Associate for two years at Tata Consultancy Services, India, Banking, Financial Services and Insurance sector (BFSI), leading data warehousing projects related to credit cards, mortgages, personal loans and auto loans across different geographies.

Annette is a graduate of Pace University, where she earned her M.B.A. degree from Lubin School of Business, with a major in Finance. She additionally holds a B.E. in Computer Engineering from Mumbai University, India. She is a CFA charter holder.





# CORE FIXED INCOME ATTRIBUTION SINCE INCEPTION ENDING 3/31/2019

Horizon: 6/30/1996 to 3/31/2019		Ryan Labs Core Fixed Income (Portfolio Gross Performance)	Bloomberg Barclays Aggregate (Benchmark Performance)	Difference
<b>RISK</b>				
1. Annualized Standard Deviation (Volatility)	%	3.63	3.39	0.24
2. Minimum Periodic Return	%	-3.16	-3.36	0.20
3. Maximum Periodic Return	%	3.88	3.73	0.15
4. Beta (Sensitivity to Benchmark)		102.45		
5. R-Squared	%	90.86		
6. Correlation	%	95.32		
7. Annualized Tracking Error	bp	106.12		
8. Shortfall Frequency	%	36.63		
9. Average Shortfall	bp	17.62		
10. Downside Capture Ratio	%	92.85	100.00	
<b>REWARD</b>				
11. Annualized Total Return	%	5.91	5.15	0.76
12. Average Periodic Return	bp	48.54	42.40	6.14
13. Cumulative Total Return	%	269.50	213.33	56.16
14. Excess Return Frequency	%	63.37		
15. Average Excess Return	bp	19.87		
16. Upside Capture Ratio	%	107.26	100.00	
<b>RISK ADJUSTED RETURN</b>				
17. Sharpe Ratio		1.01	0.85	0.15
18. Information Ratio		0.72		

All series and calculations are based upon monthly gross returns

Portfolio = Ryan Labs Core Fixed Income

Benchmark = Bloomberg Barclays Aggregate

Risk Free Rate = Merrill Lynch 91 day T-Bill



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# CORE FIXED INCOME ATTRIBUTION FIFTEEN YEARS ENDING 3/31/2019

Horizon: 3/31/2004 to 3/31/2019		Ryan Labs Core Fixed Income (Portfolio Gross Performance)	Bloomberg Barclays Aggregate (Benchmark Performance)	Difference
<b>RISK</b>				
1. Annualized Standard Deviation (Volatility)	%	3.32	3.21	0.11
2. Minimum Periodic Return	%	-2.70	-2.60	-0.10
3. Maximum Periodic Return	%	3.88	3.73	0.15
4. Beta (Sensitivity to Benchmark)		98.06		
5. R-Squared	%	88.70		
6. Correlation	%	94.18		
7. Annualized Tracking Error	bp	107.14		
8. Shortfall Frequency	%	30.00		
9. Average Shortfall	bp	17.91		
10. Downside Capture Ratio	%	82.89	100.00	
<b>REWARD</b>				
11. Annualized Total Return	%	4.81	3.89	0.92
12. Average Periodic Return	bp	39.67	32.25	7.42
13. Cumulative Total Return	%	102.28	77.16	25.12
14. Excess Return Frequency	%	70.00		
15. Average Excess Return	bp	18.28		
16. Upside Capture Ratio	%	106.67	100.00	
<b>RISK ADJUSTED RETURN</b>				
17. Sharpe Ratio		1.03	0.79	0.25
18. Information Ratio		0.86		

All series and calculations are based upon monthly gross returns

Portfolio = Ryan Labs Core Fixed Income

Benchmark = Bloomberg Barclays Aggregate

Risk Free Rate = Merrill Lynch 91 day T-Bill



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# CORE FIXED INCOME ATTRIBUTION

## TEN YEARS ENDING 3/31/2019

Horizon: 3/31/2009 to 3/31/2019		Ryan Labs Core Fixed Income (Portfolio Gross Performance)	Bloomberg Barclays Aggregate (Benchmark Performance)	Difference
<b>RISK</b>				
1. Annualized Standard Deviation (Volatility)	%	2.97	2.83	0.14
2. Minimum Periodic Return	%	-2.14	-2.37	0.22
3. Maximum Periodic Return	%	2.95	2.10	0.85
4. Beta (Sensitivity to Benchmark)		98.89		
5. R-Squared	%	87.21		
6. Correlation	%	93.39		
7. Annualized Tracking Error	bp	100.50		
8. Shortfall Frequency	%	27.50		
9. Average Shortfall	bp	19.33		
10. Downside Capture Ratio	%	82.23	100.00	
<b>REWARD</b>				
11. Annualized Total Return	%	4.80	3.77	1.04
12. Average Periodic Return	bp	39.54	31.18	8.35
13. Cumulative Total Return	%	59.86	44.72	15.14
14. Excess Return Frequency	%	72.50		
15. Average Excess Return	bp	18.85		
16. Upside Capture Ratio	%	109.79	100.00	
<b>RISK ADJUSTED RETURN</b>				
17. Sharpe Ratio		1.46	1.17	0.29
18. Information Ratio		1.03		

All series and calculations are based upon monthly gross returns

Portfolio = Ryan Labs Core Fixed Income

Benchmark = Bloomberg Barclays Aggregate

Risk Free Rate = Merrill Lynch 91 day T-Bill



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# CORE FIXED INCOME ATTRIBUTION

## FIVE YEARS ENDING 3/31/2019

Horizon: 3/31/2014 to 3/31/2019		Ryan Labs Core Fixed Income (Portfolio Gross Performance)	Bloomberg Barclays Aggregate (Benchmark Performance)	Difference
<b>RISK</b>				
1. Annualized Standard Deviation (Volatility)	%	2.91	2.83	0.07
2. Minimum Periodic Return	%	-2.14	-2.37	0.22
3. Maximum Periodic Return	%	2.58	2.10	0.48
4. Beta (Sensitivity to Benchmark)		100.67		
5. R-Squared	%	93.17		
6. Correlation	%	96.53		
7. Annualized Tracking Error	bp	55.98		
8. Shortfall Frequency	%	28.33		
9. Average Shortfall	bp	10.33		
10. Downside Capture Ratio	%	93.71	100.00	
<b>REWARD</b>				
11. Annualized Total Return	%	3.50	2.74	0.76
12. Average Periodic Return	bp	29.03	22.90	6.14
13. Cumulative Total Return	%	18.75	14.48	4.27
14. Excess Return Frequency	%	71.67		
15. Average Excess Return	bp	12.65		
16. Upside Capture Ratio	%	110.84	100.00	
<b>RISK ADJUSTED RETURN</b>				
17. Sharpe Ratio		0.94	0.70	0.24
18. Information Ratio		1.35		

All series and calculations are based upon monthly gross returns

Portfolio = Ryan Labs Core Fixed Income

Benchmark = Bloomberg Barclays Aggregate

Risk Free Rate = Merrill Lynch 91 day T-Bill



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# CORE FIXED INCOME ATTRIBUTION

## THREE YEARS ENDING 3/31/2019

Horizon: 3/31/2016 to 3/31/2019		Ryan Labs Core Fixed Income (Portfolio Gross Performance)	Bloomberg Barclays Aggregate (Benchmark Performance)	Difference
<b>RISK</b>				
1. Annualized Standard Deviation (Volatility)	%	2.86	2.93	-0.08
2. Minimum Periodic Return	%	-2.14	-2.37	0.22
3. Maximum Periodic Return	%	2.12	1.92	0.20
4. Beta (Sensitivity to Benchmark)		96.32		
5. R-Squared	%	92.40		
6. Correlation	%	96.13		
7. Annualized Tracking Error	bp	44.72		
8. Shortfall Frequency	%	27.78		
9. Average Shortfall	bp	7.01		
10. Downside Capture Ratio	%	87.14	100.00	
<b>REWARD</b>				
11. Annualized Total Return	%	2.91	2.03	0.88
12. Average Periodic Return	bp	24.27	17.09	7.18
13. Cumulative Total Return	%	8.99	6.20	2.78
14. Excess Return Frequency	%	72.22		
15. Average Excess Return	bp	12.64		
16. Upside Capture Ratio	%	110.19	100.00	
<b>RISK ADJUSTED RETURN</b>				
17. Sharpe Ratio		0.60	0.28	0.32
18. Information Ratio		1.98		

All series and calculations are based upon monthly gross returns

Portfolio = Ryan Labs Core Fixed Income

Benchmark = Bloomberg Barclays Aggregate

Risk Free Rate = Merrill Lynch 91 day T-Bill



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# CORE FIXED INCOME ATTRIBUTION

## ONE YEAR ENDING 3/31/2019

Horizon: 3/31/2018 to 3/31/2019		Ryan Labs Core Fixed Income (Portfolio Gross Performance)	Bloomberg Barclays Aggregate (Benchmark Performance)	Difference
<b>RISK</b>				
1. Annualized Standard Deviation (Volatility)	%	3.04	3.07	-0.03
2. Minimum Periodic Return	%	-0.82	-0.79	-0.03
3. Maximum Periodic Return	%	2.12	1.92	0.20
4. Beta (Sensitivity to Benchmark)		97.71		
5. R-Squared	%	82.07		
6. Correlation	%	90.59		
7. Annualized Tracking Error	bp	48.95		
8. Shortfall Frequency	%	33.33		
9. Average Shortfall	bp	13.14		
10. Downside Capture Ratio	%	89.33	100.00	
<b>REWARD</b>				
11. Annualized Total Return	%	4.76	4.48	0.28
12. Average Periodic Return	bp	39.21	36.99	2.23
13. Cumulative Total Return	%	4.76	4.48	0.28
14. Excess Return Frequency	%	66.67		
15. Average Excess Return	bp	9.91		
16. Upside Capture Ratio	%	100.21	100.00	
<b>RISK ADJUSTED RETURN</b>				
17. Sharpe Ratio		0.84	0.74	0.10
18. Information Ratio		0.57		

All series and calculations are based upon monthly gross returns

Portfolio = Ryan Labs Core Fixed Income

Benchmark = Bloomberg Barclays Aggregate

Risk Free Rate = Merrill Lynch 91 day T-Bill



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# IMPLEMENTATION: STRUCTURE REPORT BY MATURITY 3/31/2019

Cell	Weight (%)	Num Issues	Par Value	Market Value	Coupon (%)	Price (\$)	YTW (%)	Term (Yrs.)	MDur (Yrs.)	Conv (Yrs <sup>2</sup> )
CASH	3.13	1	3,922,042	3,922,042	0.00	100.00	0.00	0.00	0.00	0.00
0.00 - 1.00	1.37	6	1,719,527	1,715,671	3.05	99.53	3.53	0.62	0.61	0.01
1.00 - 3.00	15.09	38	18,846,577	18,935,000	3.51	100.19	3.42	1.96	1.87	0.04
3.00 - 5.00	22.06	56	27,491,510	27,683,256	4.05	100.54	3.92	3.86	3.54	0.14
5.00 - 7.00	13.35	39	16,700,841	16,754,466	3.70	100.17	3.67	5.86	5.20	0.33
7.00 - 10.0	26.49	52	32,932,085	33,240,606	3.47	100.63	3.39	8.41	7.11	0.68
10.00 - 20.00	4.17	11	5,107,322	5,228,701	4.01	102.14	3.76	13.96	10.42	1.41
20.00 +	14.35	33	17,281,811	18,014,573	4.05	104.22	3.80	27.13	16.67	3.82
TOTAL	100.00	236	124,001,715	125,494,315	3.62	101.03	3.52	8.64	6.48	0.87

Notes: Based on a Core Fixed Income Representative Account

YTW = Yield to Worst

Term = Term (to Workout Date)

MDur = Modified Duration

Conv = Convexity



# IMPLEMENTATION: STRUCTURE COMPARISON REPORT BY MATURITY 3/31/2019

Cell	Representative Account					Bloomberg Barclays Aggregate					Difference				
	Weight (%)	Coupon (%)	YTW (%)	MDur (%)	Conv (Yrs <sup>2</sup> )	Weight (%)	Coupon (%)	YTW (%)	MDur (%)	Conv (Yrs <sup>2</sup> )	Weight (%)	Coupon (%)	YTW (%)	MDur (%)	Conv (Yrs <sup>2</sup> )
CASH	3.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.13	0.00	0.00	0.00	0.00
0.00 - 1.00	1.37	3.05	3.53	0.61	0.01	0.00	0.00	0.00	0.00	0.00	1.37	3.05	3.53	0.61	0.01
1.00 - 3.00	15.09	3.51	3.42	1.87	0.04	21.83	2.42	2.46	1.83	0.05	-6.74	1.08	0.96	0.04	-0.01
3.00 - 5.00	22.06	4.05	3.92	3.54	0.14	18.49	2.82	2.59	3.62	0.17	3.57	1.22	1.33	-0.08	-0.03
5.00 - 7.00	13.35	3.70	3.67	5.20	0.33	17.73	3.43	2.90	4.86	0.35	-4.38	0.28	0.77	0.34	-0.02
7.00 - 10.0	26.49	3.47	3.39	7.11	0.68	25.59	3.37	3.10	6.17	0.61	0.89	0.10	0.28	0.94	0.07
10.00 - 20.00	4.17	4.01	3.76	10.42	1.41	3.70	5.62	3.99	10.52	1.49	0.46	-1.61	-0.23	-0.10	-0.08
20.00 +	14.35	4.05	3.80	16.67	3.82	12.65	4.01	3.60	16.24	3.62	1.70	0.05	0.19	0.43	0.20
TOTAL	100.00	3.62	3.52	6.48	0.87	100.00	3.21	2.93	5.96	0.78	0.00	0.41	0.59	0.52	0.09

Notes: Based on a Core Fixed Income Representative Account

YTW = Yield to Worst

MDur = Modified Duration (to Workout Date)

Conv = Convexity



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# PERFORMANCE REPORT BY SECTOR

## 3/31/2019

Cell	Representative Account						Bloomberg Barclays Aggregate						Difference					
	Weight (%)	Daily Return	MTD Return	QTD Return	YTD Return	Cumm Return	Weight (%)	Daily Return	MTD Return	QTD Return	YTD Return	Cumm Return	Weight (%)	Daily Return	MTD Return	QTD Return	YTD Return	Cumm Return
Cash	3.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.13	0.00	0.00	0.00	0.00	0.00
Treasury	18.16	0.01	3.31	3.32	3.32	6.22	39.23	-0.13	1.91	2.11	2.11	4.21	-21.07	0.14	1.40	1.21	1.21	2.01
Agency	0.26	0.01	4.88	16.98	16.98	17.61	2.73	-0.08	1.63	2.54	2.54	3.82	-2.47	0.10	3.25	14.44	14.44	13.78
Local Authority	0.00	0.00	0.00	0.00	0.00	0.00	0.91	-0.14	3.20	4.18	4.18	5.29	-0.91	0.14	-3.20	-4.18	-4.18	-5.29
Sovereign	0.39	0.01	2.19	4.36	4.36	4.42	0.96	0.01	2.86	6.22	6.22	6.36	-0.57	0.00	-0.67	-1.86	-1.86	-1.94
Supranational	0.00	0.00	0.00	0.00	0.00	0.00	1.45	-0.11	1.08	1.56	1.56	3.85	-1.45	0.11	-1.08	-1.56	-1.56	-3.85
Industrial	10.71	0.01	2.63	6.18	6.18	3.76	14.86	-0.08	2.73	5.50	5.50	4.96	-4.16	0.09	-0.10	0.68	0.68	-1.21
Utility	4.03	0.01	3.01	6.62	6.62	1.84	1.71	-0.11	3.27	4.57	4.57	3.62	2.31	0.13	-0.26	2.04	2.04	-1.78
Finance	9.11	0.01	2.06	4.69	4.69	3.69	7.92	-0.08	1.92	4.61	4.61	5.18	1.19	0.09	0.15	0.08	0.08	-1.49
MBS Pass Thru	20.48	0.01	1.58	2.35	2.35	4.70	27.73	-0.05	1.46	2.17	2.17	4.43	-7.24	0.06	0.13	0.18	0.18	0.27
Asset Backed	18.18	0.01	1.77	2.46	2.46	4.38	0.51	-0.07	0.72	1.48	1.48	3.68	17.67	0.08	1.05	0.98	0.98	0.70
CMBS	12.73	0.01	1.78	3.82	3.82	7.78	1.94	-0.20	1.75	3.24	3.24	5.43	10.79	0.21	0.03	0.58	0.58	2.35
Covered	0.00	0.00	0.00	0.00	0.00	0.00	0.03	-0.07	0.63	1.17	1.17	3.31	-0.03	0.07	-0.63	-1.17	-1.17	-3.31
CMO	2.82	0.01	1.41	1.71	1.71	3.78	0.00	0.00	0.00	0.00	0.00	0.00	2.82	0.01	1.41	1.71	1.71	3.78
Other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	100.00	0.01	2.15	3.53	3.53	4.70	100.00	-0.09	1.92	2.94	2.94	4.48	0.00	0.10	0.23	0.59	0.59	0.21

Notes:

- Based on a Core Fixed Income Representative Account
- % Weight = Percent of Total Portfolio Weight
- Daily Return = Total Return For the Day
- MTD Return = Total Return Since End Of Previous Month
- QTD Return = Total Return Since End of Last Calendar Quarter
- YTD Return = Total Return Since End Of Previous Year
- Cumm Ret = Cumulative Total Return Since 3/31/2018



# CORE FIXED INCOME PERFORMANCE DATA

Year	Total Return Gross (%)	Total Return Net (%)	Benchmark Return (%)	Number of Portfolios	Composite 3-Yr Std Dev	Benchmark 3-Yr Std Dev	Dispersion (%)	Composite Assets (\$mil)	Firm Assets (\$mil)	% of Firm Assets
2008	6.87	6.55	5.24	5	N/A	N/A	N/A	149.71	2,174.68	6.88
2009	7.92	7.59	5.93	5	N/A	N/A	0.47	134.91	2,901.45	4.65
2010	8.72	8.40	6.54	5	N/A	N/A	0.16	148.64	3,479.72	4.27
2011	7.98	7.66	7.84	8	2.93	2.78	N/A	220.28	4,039.24	5.45
2012	6.17	5.86	4.22	8	2.50	2.38	0.47	322.34	4,449.82	7.25
2013	-0.92	-1.21	-2.02	9	2.92	2.71	0.15	419.81	4,096.52	10.25
2014	7.07	6.75	5.97	12	2.76	2.63	0.14	564.65	5,142.90	10.98
2015	0.80	0.50	0.55	16	3.06	2.88	0.09	763.32	5,715.41	13.36
2016	3.80	3.49	2.65	15	3.13	2.98	0.17	625.66	6,132.60	10.20
2017	4.55	4.25	3.54	19	2.98	2.81	0.25	1,347.60	7,706.24	17.49
2018	0.09	-0.16	0.01	22	2.81	3.12	0.09	1,636.86	8,331.13	19.65

Ryan Labs claims compliance with the Global Investment Performance Standards (GIPS®) and has prepared and presented this report in compliance with the GIPS standards. Ryan Labs has been independently verified for the periods 6/30/2003 to 12/31/2017. The verification report(s) is/are available upon request. Verification assesses whether (1) the firm has complied with all the composite construction requirements of the GIPS standards on a firm-wide basis and (2) the firm's policies and procedures are designed to calculate and present performance in compliance with the GIPS standards. Verification does not ensure the accuracy of any specific composite presentation.

**Portfolios Characteristics:** Ryan Labs Core Fixed Income Composite was created in June 30, 1996. The composite includes all non-wrap taxable investment grade fixed income portfolios benchmarked to the Bloomberg Barclays Aggregate Index with an asset allocation of 100% investment grade securities. A complete list and description of all the firm composites is available upon request. Policies for valuing portfolios, calculating performance, and preparing compliant presentations are available upon request. Ryan Labs has adopted a significant cash flow policy if an account experiences a cash flow greater than 10% of market value. This policy is effective January 1, 2014.

The Bloomberg Barclays Aggregate Index is composed of domestic investment grade fixed income securities with maturities of 1-to-30 years. Pursuant to the rules of the Index, the Index's portfolio must (i) have at least one year to final maturity, (ii) have at least \$300 million par amount outstanding, (iii) be fixed rate, (iv) be U.S. dollar denominated and non-convertible, (v) and be publicly issued. Indexes are unmanaged and are not subject to transaction charges or expenses. An investor may not invest directly in an index.

**Calculation Methodology:** Gross-of-fees returns are calculated gross of management and custodial fees, and gross of taxes on dividends and interest, and net of transaction costs. Net-of-fees returns are calculated on a monthly basis using the highest annual management fee (25 bps) from Ryan Labs fee schedule, which is also outlined in the firm's Form ADV Part 2. Composite results reflect the reinvestment of dividends, capital gains, and other earnings when appropriate. The dispersion measure is the asset-weighted standard deviation of accounts in the composite for the entire year. The three-year annualized standard deviation measures the variability of the composite and the benchmark returns over the preceding 36-month period.

**Ryan Labs Asset Management** is an investment adviser registered with the Securities and Exchange Commission under the Investment Advisers Act of 1940. Registration with the U.S. Securities and Exchange Commission as an investment advisor does not imply a certain level of skill or training. We offer actively managed fixed income separate account vehicles to institutional investors. Our fee schedule is: 0.250% on the first \$100 million, 0.150% on the next \$200 million, 0.120% on the next \$200 million, 0.100% on the next \$500 million, 0.080% on the next \$500 million, and 0.050% on the balance in excess of \$1.5 billion.

**Disclosures & Footnotes:** As of January 1, 2014, the composite name was changed from "Broad Market Enhanced(BME)" to "Core Fixed Income". There were no underlying changes to the strategy. Past performance of the account is not indicative of future results. Risk return characteristics are based on returns from the trailing five-year period, and do not reflect the deduction of advisory fees. Performance results are based on U.S. dollar returns. The investment advisory fee charged to each investor causes their return to be lower than the gross returns presented above. Investment results may vary. No assurance can be given that the investment objective will be achieved, and an investor may lose money. Due to current market volatility, current performance may be lower than that of the figures shown. This material is intended for informational purposes only and does not constitute investment advice, a recommendation, or an offer or solicitation to purchase or sell any security or other instrument. The account's total return will fluctuate over a wider range than money market investments due to greater sensitivity to (i) interest rates, (ii) market conditions, (iii) and maturities.



# SEPARATE ACCOUNT FEE SCHEDULE

Market Enhanced Fee Schedule		
First	\$100,000,000	0.250%
Next	\$200,000,000	0.150%
Next	\$200,000,000	0.120%
Next	\$500,000,000	0.100%
Next	\$500,000,000	0.080%
Next	\$1,000,000,000	0.050%

Full fee schedule available in Form ADV.



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# COMPOSITE PERFORMANCE SUMMARY

## 3/31/2019

<i>Discretionary Composites</i>	Current Quarter	1 Year	3 Years	5 Year	SID	Value Added <sup>1</sup>	Risk <sup>2,3</sup>	Start Date	Tracking <sup>2,4</sup> Error	Info <sup>2,5</sup> Ratio
Short Duration Government (Gross)	1.00%	2.69%	1.07%	1.06%	3.78%	0.33%	1.54%	12/31/1993	0.53%	0.62
Short Duration Government (Net)	0.94%	2.43%	0.79%	0.78%	3.47%	0.02%				
Barclays Treasury 1 to 3 Year Index	0.99%	2.73%	0.98%	0.98%	3.45%		1.53%			
Short Duration Government/Credit (Gross)	1.59%	3.35%	1.66%	1.44%	1.67%	0.19%	0.79%	6/30/2009	0.19%	0.99
Short Duration Government/Credit (Net)	1.52%	3.09%	1.39%	1.15%	1.37%	-0.11%				
Barclays Gov't/Credit 1 to 3 Year	1.21%	3.03%	1.32%	1.22%	1.48%		0.81%			
Low Duration Income (Gross)	2.16%	4.29%	2.97%		2.92%	1.56%	1.04%	8/31/2015	0.54%	2.91
Low Duration Income (Net)	2.05%	3.82%	2.57%		2.53%	1.17%				
Barclays Gov't/Credit 1 to 3 Year Index	1.21%	3.03%	1.32%		1.36%		0.86%			
Limited Duration Credit (Gross)	2.81%	4.53%	2.31%	2.23%	2.73%	0.08%	1.76%	6/30/2009	0.42%	0.20
Limited Duration Credit (Net)	2.75%	4.27%	2.05%	1.95%	2.48%	-0.17%				
Barclays Credit 0 to 5 Year Index	2.39%	4.27%	2.08%	2.05%	2.64%		1.85%			
Limited Duration Government/Credit (Gross)	2.05%	3.88%	1.93%		2.15%	0.47%	1.32%	11/30/2015	0.36%	1.29
Limited Duration Government/Credit (Net)	1.99%	3.62%	1.65%		1.87%	0.19%				
Barclays Gov't/Credit 1 to 5 Year Index	1.62%	3.54%	1.41%		1.68%		1.40%			
Intermediate Government/Credit (Gross)	2.48%	4.13%	2.03%	2.41%	4.82%	0.35%	2.95%	1/31/2000	0.75%	0.47
Intermediate Government/Credit (Net)	2.42%	3.87%	1.75%	2.12%	4.51%	0.04%				
Barclays Gov't/Credit Intermediate Index	2.32%	4.24%	1.66%	2.12%	4.47%		2.96%			
Core Fixed Income Intermediate (Gross)	3.63%	3.91%	3.03%		3.08%	1.17%	2.26%	12/31/2014	0.82%	1.42
Core Fixed Income Intermediate (Net)	3.57%	3.67%	2.79%		2.81%	0.90%				
Barclays Aggregate Intermediate Index	2.28%	2.79%	1.53%		1.91%		1.99%			

<sup>1</sup> Since inception value added over benchmark | <sup>2</sup> Risk calculations based upon return since inception | <sup>3</sup> Annualized standard deviation of monthly returns (volatility) | <sup>4</sup> Annualized standard deviation of monthly differential returns

<sup>5</sup> Value added per unit of tracking error

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# COMPOSITE PERFORMANCE SUMMARY

## 3/31/2019

<i>Discretionary Composites</i>	Current Quarter	1 Year	3 Years	5 Year	SID	Value Added <sup>1</sup>	Risk <sup>2,3</sup>	Start Date	Tracking <sup>2,4</sup> Error	Info <sup>2,5</sup> Ratio
<b>Core Fixed Income (Gross)</b>	3.44%	4.76%	2.91%	3.50%	5.91%	0.76%	3.63%	6/30/1996	1.06%	0.72
<b>Core Fixed Income (Net)</b>	3.37%	4.50%	2.63%	3.20%	5.60%	0.45%				
<b>Barclays Aggregate Index</b>	2.94%	4.48%	2.03%	2.74%	5.15%		3.39%			
<b>Government/Credit (Gross)</b>	3.31%	4.35%	2.26%	3.00%	5.08%	0.90%	3.90%	7/31/2007	0.92%	0.98
<b>Government/Credit (Net)</b>	3.24%	4.08%	1.99%	2.71%	4.77%	0.60%				
<b>Barclays Gov't/Credit Index</b>	3.26%	4.48%	2.12%	2.78%	4.18%		3.87%			
<b>Long Credit (Gross)</b>	8.22%	4.93%	5.47%	5.90%	9.06%	1.17%	7.74%	6/30/2009	1.07%	1.10
<b>Long Credit (Net)</b>	8.15%	4.67%	5.19%	5.60%	8.74%	0.86%				
<b>Barclays Credit Long Index</b>	7.86%	4.58%	5.21%	5.38%	7.88%		7.67%			
<b>Long Government/Credit (Gross)</b>	6.58%	5.35%	4.08%	5.89%	7.02%	0.53%	8.39%	12/31/2010	1.03%	0.52
<b>Long Government/Credit (Net)</b>	6.52%	5.09%	3.80%	5.59%	6.71%	0.22%				
<b>Barclays Gov't/Credit Long Index</b>	6.45%	5.24%	3.75%	5.35%	6.49%		8.39%			
<b>Long Government (Gross)</b>	4.63%	6.18%	1.50%	5.56%	6.45%	0.19%	11.02%	1/31/2010	0.60%	0.31
<b>Long Government (Net)</b>	4.57%	5.91%	1.22%	5.27%	6.14%	-0.12%				
<b>Barclays Gov't Long Index</b>	4.64%	6.20%	1.54%	5.43%	6.26%		10.71%			
<b>Long Treasury (Gross)</b>	4.63%	6.17%			4.21%	-0.02%	8.50%	5/31/2017	0.04%	-0.54
<b>Long Treasury (Net)</b>	4.57%	5.91%			3.97%	-0.26%				
<b>Barclays Treasury Long Index</b>	4.67%	6.24%			4.23%		8.51%			
<b>High Yield (Gross)</b>	7.23%	4.13%	7.80%	5.23%	7.00%	0.72%	5.55%	3/31/2011	1.20%	0.60
<b>High Yield (Net)</b>	7.03%	3.35%	7.19%	4.75%	6.57%	0.30%				
<b>Barclays US High Yield</b>	7.26%	5.93%	8.56%	4.68%	6.28%		5.84%			
<b>Inflation Index Enhanced (Gross)</b>	3.08%	2.55%	1.74%	2.08%	4.65%	0.00%	6.08%	5/31/2002	0.62%	0.00
<b>Inflation Index Enhanced (Net)</b>	3.02%	2.29%	1.47%	1.79%	4.34%	-0.31%				
<b>Barclays US TIPS</b>	3.19%	2.70%	1.70%	1.94%	4.65%		5.97%			

<sup>1</sup> Since inception value added over benchmark | <sup>2</sup> Risk calculations based upon return since inception | <sup>3</sup> Annualized standard deviation of monthly returns (volatility) | <sup>4</sup> Annualized standard deviation of monthly differential returns

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# COMPOSITE PERFORMANCE SUMMARY

## 3/31/2019

<i>Discretionary Composites</i>	Current Quarter	1 Year	3 Years	5 Year	SID	Value Added <sup>1</sup>	Risk <sup>2,3</sup>	Start Date	Tracking <sup>2,4</sup> Error	Info <sup>2,5</sup> Ratio
LDI Short Duration (Custom 1 to 3 years) (Gross)	2.89%	4.75%	2.21%	2.22%	3.30%	-0.40%	3.62%	10/31/2000	3.42%	-0.12
LDI Short Duration (Custom 1 to 3 years) (Net)	2.80%	4.38%	1.84%	1.85%	2.95%	-0.74%				
<i>Custom Liability Index (1 to 3 Year)</i>	2.10%	3.93%	1.87%	2.01%	3.69%		2.27%			
LDI Intermediate Duration (Custom 3 to 5 Years) (Gross)	2.41%	4.23%	1.76%	2.40%	4.81%	0.17%	3.23%	1/31/1997	0.76%	0.22
LDI Intermediate Duration (Custom 3 to 5 Years) (Net)	2.32%	3.86%	1.39%	2.03%	4.47%	-0.18%				
<i>Custom Liability Index (3 to 5 Year)</i>	1.95%	1.07%	1.79%	2.19%	4.60%		3.47%			
LDI Core Duration (Custom 5 to 7 Years ) (Gross)	3.84%	5.20%	2.89%	3.52%	5.47%	0.42%	5.09%	7/31/2001	1.06%	0.39
LDI Core Duration (Custom 5 to 7 Years ) (Net)	3.75%	4.83%	2.52%	3.15%	5.11%	0.06%				
<i>Custom Liability Index (5 to 7 Year)</i>	3.62%	4.72%	2.44%	3.36%	5.05%		5.28%			
LDI Long Duration (Custom 7 to 10 Years) (Gross)	4.70%	5.35%	3.02%	4.20%	8.13%	0.74%	7.73%	6/30/1991	1.52%	0.49
LDI Long Duration (Custom 7 to 10 Years) (Net)	4.60%	4.98%	2.65%	3.82%	7.78%	0.39%				
<i>Custom Liability Index (7 to 10 Year)</i>	4.52%	4.92%	2.57%	4.07%	7.39%		7.93%			
LDI Extended Duration (Custom 10 to 16 Years) (Gross)	5.23%	5.61%	3.24%	5.08%	8.44%	1.21%	9.45%	12/31/1999	2.11%	0.57
LDI Extended Duration (Custom 10 to 16 Years) (Net)	5.14%	5.24%	2.87%	4.70%	8.08%	0.85%				
<i>Custom Liability Index (10 to 16 Year)</i>	5.06%	4.98%	2.77%	4.82%	7.23%		9.80%			
Inflation Index Intermediate (Gross)	4.11%	2.46%	0.82%	1.52%	3.94%	0.10%	6.46%	4/30/2003	0.43%	0.24
Inflation Index Intermediate (Net)	4.05%	2.25%	0.57%	1.22%	3.61%	-0.23%				
<i>Custom TIPS Index</i>	4.34%	2.53%	0.86%	1.52%	3.84%		6.57%			

<sup>1</sup> Since inception value added over benchmark | <sup>2</sup> Risk calculations based upon return since inception | <sup>3</sup> Annualized standard deviation of monthly returns (volatility) | <sup>4</sup> Annualized standard deviation of monthly differential returns

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# DISCLOSURE

Ryan Labs Core Fixed Income composite commenced operations June 30, 1996, as Broad Market Enhanced. As of 1/1/2014, the composite name was changed from "Broad Market Enhanced (BME)" to "Core Fixed Income". There were no underlying changes to the strategy. Past performance of the account is not indicative of future results. Risk Return characteristics are based on returns from the trailing five year period, and do not reflect the deduction of advisory fees. Performance results are based on US dollar returns. The investment advisory fee charged to each investor causes their return to be lower than the gross returns presented above. Investment results may vary. No assurance can be given that the investment objective will be achieved, and an investor may lose money. Due to current market volatility, current performance may be lower than that of the figures shown. This material is intended for informational purposes only and does not constitute investment advice, a recommendation, or an offer or solicitation to purchase or sell any security or other instrument. The Account's total return will fluctuate over a wider range than money market investments due to greater sensitivity to (i) interest rates, (ii) market conditions, (iii) and maturities.

Ryan Labs Core Fixed Income Composite was created in June 30, 1996. The composite includes all taxable investment grade fixed income benchmarked to the Bloomberg Barclays U.S. Aggregate Index with an asset allocation of 100% investment grade securities. A complete list and description of all the firm composites is available upon request. All discretionary accounts managed against the Bloomberg Barclays Aggregate Index are included in the composite. New accounts that fit the composite definition are added at the beginning of the first full calendar month for which the account is under management. Closed account data is included in the composite through the last full month under management. Policies for valuing portfolios, calculating performance, and preparing compliant presentations are available upon request.

Gross of fees returns are calculated gross of management and custodial fees, and gross of taxes on dividends and interest, and net of transaction costs. Net of fees returns are calculated on a monthly basis using the highest annual management fee (30 bps) from Ryan Labs fee schedule, which is also outlined in the Firm's Form ADV Part 2. Composite results reflect the reinvestment of dividends, capital gains, and other earnings when appropriate. Accruals for all securities are included in calculations. The dispersion measure is the asset-weighted standard deviation of accounts in the composite for the entire year. The three year annualized standard deviation measures the variability of the composite and the benchmark returns over the preceding 36-month period.



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Past performance of the account is not indicative of future results. The performance above is gross of all fees and expenses for the stated period and assumes reinvestment of dividends and other earnings. Risk Return characteristics are based on returns from inception of the account through the stated date and do not reflect the deduction of advisory fees. An advisory fee reduces the investor's return and any other expenses Ryan Labs may incur managing the investment advisory account. The investment advisory fees are described in Part 2 of the Ryan Labs Form ADV. The investment advisory fee charged to each investor causes their return to be lower than the gross returns presented above. For example, on a \$100,000,000 investment, an investment advisory fee of \$170,000 per year is deducted from the account. For example, an account with a compounded annual total return of 10% would have increased by 159% over ten years. Assuming an annual advisory fee of 0.17%, this increase would be 155%. All returns are calculated net of transaction costs, and gross of taxes on dividends and interest. Performance results are based on US dollar returns.

Investment results may vary. No assurance can be given that the investment objective will be achieved, and an investor may lose money. Due to current market volatility, current performance may be lower than that of the figures shown. This material is intended for informational purposes only and does not constitute investment advice, a recommendation, or an offer or solicitation to purchase or sell any security or other instrument. The Account's total return will fluctuate over a wider range than money market investments due to greater sensitivity to (i) interest rates, (ii) market conditions, (iii) and maturities.

*The term "modified duration" is derived from the duration of any security or series of securities and provides a measure of the risk with which the sensitivity of bonds or bond portfolios to interest rate changes can be estimated. A 1% increase (or decrease) in the interest rate accordingly produces a percentage fall (or rise) in the price in proportion to the modified duration. For example, assume that the modified duration of a bond portfolio is 4.5 years and the theoretical YTW is 5.3%. If the interest rate drops by 1% to 4.3%, the portfolio price increases by approximately 4.5%.*

